METHOD AND APPARATUS FOR ATTACHING CONNECTIVE TISSUES TO BONE USING A KNOTLESS SUTURE ANCHORING DEVICE

Abstract of the Invention

An innovative bone anchor and methods for securing soft tissue, such as tendons, to bone, which permit a suture attachment that lies entirely beneath the cortical bone surface. Advantageously, the suturing material between the soft tissue and the bone anchor is secured without the need for tying a knot. The suture attachment to the bone anchor involves the looping of a length of suture around a pulley within the bone anchor, tightening the suture and attached soft tissue, and compressing the suture against the bone anchor. The bone anchor may be a tubular body having a lumen with a locking plug that compresses the suture therein. The pulley may be a pin located near a distal end of the tubular body around which the length of suture is looped. Alternatively, a pulley may be a bridge portion of the tubular body between two spaced apertures in the wall of the body. The locking plug may include a shaft and an enlarged head that interferes with the tubular body to provide a positive stop. An actuation rod attached at a frangible section to the shaft may be manipulated by an external handle during locking of the suture within the bone anchor. The bone anchor further may include locking structure for securing itself within a bone cavity.